# Biochemistry and Cell Biology

Contents
Volume 73, 1995

# Biochimie et biologie cellulaire

Sommaire
Volume 73, 1995

## January–February / janvier–février


ARTICLES

**Michael W. Hess** High-pressure freeze fixation reveals novel features during ontogenesis of the vegetative cell in *Ledebouria* pollen: an ultrastructural and cytochemical study 1

**Laura J.P. Latimer, Natasha Payton, Gavin Forsyth, and Jeremy S. Lee** The binding of analogues of coralyne and related heterocyclics to DNA triplexes 11

**Ling Liu, Daniel S. Maillet, J. Roger H. Frappier, David B. Walden, and Burr G. Atkinson** Characterization, chromosomal mapping, and expression of different polyubiquitin genes in tissues from control and heat-shocked maize seedlings 19

**Todd A. Dakin and R. William Currie** Prior treatment with heat shock attenuates the stress response in isolated working rat hearts 31

**José Antonio Prieto, Bernardo Roque Bort, Javier Martínez, Franscisca Randez-Gil, Carlos Buesa, and Pascual Sanz** Purification and characterization of a new α-amylase of intermediate thermal stability from the yeast *Lipomyces kononenkoae* 41

**Christine Michaelis, Qian Luo, and Gerald Weeks** A *Dictyostelium discoideum* gene, which is highly related to *mo15* from *Xenopus*, is expressed during growth but not during development 51

**George N. Tzanakakis, Nikos K. Karamanos, Julius Klominek, and Anders Hjerpe** Glycosaminoglycans from two human malignant mesothelioma cell lines: determination, distribution, and effect of platelet-derived growth factor on their synthesis 59

**Jean-Claude Maboundou, Mohamed Fofana, Jacqueline Fresnel, Jean Bocquet, and Dominique Le Goff** Effect of lipoproteins on cholesterol synthesis in rat Sertoli cells 67

**Maria Janicka, Erwin Regoeczi, Maria Bolyos, and Wei-Li Hu** Interaction of transferrin with rat alveolar macrophages 73

**Ellick Pau, Yi He, Marilee Lougheed, and Urs P. Steinbrecher** Inhibition of hydroxymethylglutaryl coenzyme A reductase activity does not affect the secretion rate of apolipoproteins B and A1 by CaCo-2 cells 81

**Sylvie Laquerre, Lisette Lagacé, and James G. Chafouleas** Evaluation of the expression and intracellular localization of a 44-kDa calmodulin binding protein during exponential growth and quiescence ($G_0$) 91

**Emilia Furmaniak-Kazmierczak, Michael E. Nesheim, and Graham P. Côté** Coagulation factor Va is an actin filament binding and cross-linking protein 105

**Aleksi Sedo and Roberto P. Revoltella** Detection of dipeptidyl peptidase IV in glioma C6 and neuroblastoma SK-N-SH cell lines 113

**Aldo Milzani, Isabella DalleDonne, and Robert Colombo** *N*-Ethylmaleimide-modified actin filaments do not bundle in the presence of α-actinin 116

**Instructions to authors / Recommandations aux auteurs** iii

**Research Journals Publication Policy / Revues scientifiques politique de publication** ix


## March–April / mars–avril


REVIEWS/SYNTHÈSES

**David B. Williams** The Merck Frosst Award Lecture 1994 / La conference Merck Frosst 1994 Calnexin: a molecular chaperone with a taste for carbohydrate 123

**Haleh Vahidi Samiei** Signaling in new directions 133

ARTICLES

**T. Mabrouk, C. Danis, and G. Lemay** Two basic motifs of reovirus σ3 protein are involved in double-stranded RNA binding 137

**Monica E.R. Varga and Joel H. Weiner** Physiological role of GlpB of anaerobic glycerol-3-phosphate dehydrogenase of *Escherichia coli* 147

**Daniel J. Sexton and Bulent Mutus** Platelet glutathione transport: characteristics and evidence for regulation by intraplatelet thiol status 155

**L. Pilote, G. McKercher, D. Thibeault, and D. Lamarre** Enzymatic characterization of purified recombinant human renin 163

**François Bellemare, Josette Noël, and Christiane Malo** Characteristics of exogenous lipid uptake by renal and intestinal brush-border membrane vesicles 171

**L.M. McIntosh and J.E. Anderson** Hypothyroidism prolongs and increases *mdx* muscle precursor proliferation and delays myotube formation in normal and dystrophic limb muscle 181

**Masaichi Miwa, Osamu Kozawa, Atsushi Suzuki, Yasuko Watanabe, Junji Shinoda, and Yutaka Oiso** Vasopressin activates phospholipase D through pertussis toxin-insensitive GTP-binding protein in aortic smooth muscle cells: function of $Ca^{2+}$/calmodulin 191

**Grace Rasmussen and Colin Rasmussen** Calmodulin-dependent protein kinase II is required for $G_1$/S progression in HeLa cells 201

## May–June / mai–juin

REVIEWS/SYNTHÈSES

**J. Katsaras** X-ray diffraction studies of oriented lipid bilayers 209

**J.W. Anderson** HPr: a model protein 219

**Dev Mangroo, Bernardo L. Trigatti, and Gerhard E. Gerber** Membrane permeation and intracellular trafficking of long chain fatty acids: insights from *Escherichia coli* and 3T3-L1 adipocytes 223

**Alexander Kin-Choi Wong** Molecular genetics of the parasitic protozoan *Leishmania* 235

ARTICLES

**Abdur Rashid and Radovan Popovic** Electron donation to photosystem II by diphenylcarbazide is inhibited both by the endogenous manganese complex and by exogenous manganese ions 241

**Dejan Z. Markovic and Robert Carpentier** Relationship between quenching of variable fluorescence and thermal dissipation in isolated thylakoid membranes: similar terminology and mathematical treatments may be used 247

**Wing L. Sung, Catherine K. Luk, Benedict Chan, Warren Wakarchuk, Makoto Yaguchi, Robert Campbell, Gordon Willick, Kazuhiko Ishikawa, and Diana M. Zahab** Expression of *Trichoderma reesei* and *Trichoderma viride* xylanases in *Escherichia coli* 253

**Nabila M. Shanbaky and Thomas A. Pressley** Transfection of Na,K-ATPase α-subunit: regulation of enzyme abundance 261

**P.C. Lee, M. Jordan, G.M. Pieper, and A.M. Roza** Normalization of pancreatic exocrine enzymes by islet transplantation in diabetic rats 269

**Nikolaus Seiler, Jacques-Philippe Moulinoux, Rene Havouis, and Louis Toujas** Characterization of amine oxidase activities in macrophages from human peripheral blood 275

**Michele L. Barbeau, Stewart C. Whitman, and Kem A. Rogers** Probucol, but not MaxEPA fish oil, inhibits mononuclear cell adhesion to the aortic intima in the rat model of atherosclerosis 283

**Isabel Baeza, Leopoldo Aguilar, Francisco Alvarado-Alemán, Carolina Soto, Alejandro Escobar-Gutiérrez, Ricardo Mondragón, Sirenia González, Miguel Ibáñez, and Carlos Wong** Identification of phosphatidate nonlamellar phases on liposomes by flow cytometry 289

NOTES

**Shu Guang Cao and Grant M. Hatch** Oleate stimulation of incorporation of exogenous glycerol into cardiolipin in isolated perfused rat heart does not involve direct activation of the CDP–DG pathway 299

**Jean Trudel and Alain Asselin** Detection of a glycosylated form of hen egg white lysozyme 307

## July–August / juillet–août

REVIEWS/SYNTHÈSES

**Michal Opas** Cellular adhesiveness, contractility, and traction: stick, grip, and slip control 311

**G. Forgacs** Biological specificity and measurable physical properties of cell surface receptors and their possible role in signal transduction through the cytoskeleton 317

ARTICLES

**Ning Wang and Donald E. Ingber** Probing transmembrane mechanical coupling and cytomechanics using magnetic twisting cytometry 327

**Jürgen Bereiter-Hahn, Ilonka Karl, Holger Lüers, and Monika Vöth** Mechanical basis of cell shape: investigations with the scanning acoustic microscope 337

REVIEW/SYNTHÈSE

**Albert J. Banes, Mari Tsuzaki, Juro Yamamoto, Thomas Fischer, Brian Brigman, Thomas Brown, and Larry Miller** Mechano-reception at the cellular level: the detection, interpretation, and diversity of responses to mechanical signals 349

ARTICLES

**Peter A. Watson, Kathryn E. Giger, and Anna M. Kempinski** Type I and type VIII adenylyl cyclases constitute a family whose activation is coupled to cellular deformation through the action of calcium–calmodulin 367

**Elizabeth J. Hansell, Steven M. Frisch, Patrice Tremble, John P. Murnane, and Zena Werb** Simian virus 40 transformation alters the actin cytoskeleton, expression of matrix metalloproteinases and inhibitors of metalloproteinases, and invasive behavior of normal and ataxia-telangiectasia human skin fibroblasts 373

**C.D. Roskelley and M.J. Bissell** Dynamic reciprocity revisited: a continuous, bidirectional flow of information between cells and the extracellular matrix regulates mammary epithelial cell function 391

**B.A. Skierczynski, R. Skalak, and S. Chien** Modeling of molecular mechanisms of cell adhesion 399

**Siham Sabri, Anne Pierres, Anne-Marie Benoliel, and Pierre Bongrand** Influence of surface charges on cell adhesion: difference between static and dynamic conditions 411

**Xiaoyi He and Micah Dembo** Modeling chemoattractant-elicited relocalization of myosin filaments in *Dictyostelium* 421

**Włodzimierz Korohoda, Anna Jurkiewicz, Izabela Figiel, and Jarosław Czyż** A new model for the research into rhythmic contraction activity of cardiomyocytes in vitro 431

**Wolfgang Alt, Oana Brosteanu, Boris Hinz, and Hans Wilhelm Kaiser** Patterns of spontaneous motility in videomicrographs of human epidermal keratinocytes (HEK) 441

**Yih Lee, Pauline A. Markenscoff, Larry V. McIntire, and Kyriacos Zygourakis** Characterization of endothelial cell locomotion using a Markov chain model 461

**C. Oakley and D.M. Brunette** Response of single, pairs, and clusters of epithelial cells to substratum topography 473

**K. Shen, K.-L.P. Sung, D.E. Whittemore, F.A. DeLano, B.W. Zweifach, and G.W. Schmid-Schönbein** Properties of circulating leukocytes in spontaneously hypertensive rats 491

**Kenneth A. Barbee** Changes in surface topography in endothelial monolayers with time at confluence: influence on subcellular shear stress distribution due to flow 501

**Shervin Eshraghi and Avrum I. Gotlieb** Insulin does not disrupt actin microfilaments, microtubules, and in vitro aortic endothelial wound repair 507

**Lewis H. Romer and Richard A. Polin** Endotoxin, tumor necrosis factor, and dexamethasone effects on human endothelial cell fibronectin dynamics: synthesis, matrix assembly, and receptor expression 515

REVIEW/SYNTHÈSE

**David Jones, Gunnar Leivseth, and Jochen Tenbosch** Mechano-reception in osteoblast-like cells 525

ARTICLES

**C. Lo, J. Ferrier, H.C. Tenenbaum, and C.A.G. McCulloch** Regulation of cell volume and intracellular pH in hyposmotically swollen rat osteosarcoma cells 535

**G. Wayne Brodland and David A. Clausi** Cytoskeletal mechanics of neurulation: insights obtained from computer simulations 545

**L.V. Beloussov and N.N. Luchinskaia** Biomechanical feedback in morphogenesis, as exemplified by stretch responses of amphibian embryonic tissues 555

**John Totafurno and Matthew Bjerknes** Morphogenesis and mechanical instability of a prestressed tissue 565

## September–October / septembre–octobre

REVIEWS/SYNTHÈSES

**Harish C. Pant and Veeranna** Neurofilament phosphorylation 575

**Jean-Pierre Julien** A role for neurofilaments in the pathogenesis of amyotrophic lateral sclerosis 593

ARTICLES

**Michael Minzenberg, Michelle Berkelaar, Garth Bray, and Lisa McKerracher** Changes in retinal ganglion cell axons after optic nerve crush: neurofilament expression is not the sole determinant of calibre 599

**Gilbert Bernier, Arthur Brown, Gratien Dalpé, Martine Mathieu, Yves De Repentigny, and Rashmi Kothary** Dystonin transcripts are altered and their levels are reduced in the mouse neurological mutant *dt*$^{24J}$ 605

REVIEWS/SYNTHÈSES

**Pierre A. Coulombe, Nicola S. Bravo, Rudolph D. Paladini, Diem Nguyen, and Kenzo Takahashi** Overexpression of human keratin 16 produces a distinct skin phenotype in transgenic mouse skin 611

**Normand Marceau and Anne Loranger** Cytokeratin expression, fibrillar organization, and subtle function in liver cells 619

**Monique Cadrin and Maria-Grazia Martinoli** Alterations of intermediate filaments in various histopathological conditions 627

ARTICLES

**Julie Fradette, Marie-Josée Godbout, Martine Michel, and Lucie Germain** Localization of Merkel cells at hairless and hairy human skin sites using keratin 18 635

**Anne Loranger, Beatriz Tuchweber, Ibrahim Youseff, and Normand Marceau** Biliary secretion and actin–cytokeratin filament distribution in rat hepatocytes during phalloidin-induced cholestasis 641

**Marie Duval, Xiaoying Ma, Jean-Paul Valet, and Michel Vincent** Purification of developmentally regulated avian 400-kDa intermediate filament associated protein. Molecular interactions with intermediate filament proteins and other cytoskeleton components **651**

REVIEW/SYNTHÈSE

**Alyson E. Fournier and Lisa McKerracher** Tubulin expression and axonal transport in injured and regenerating neurons in the adult mammalian central nervous system **659**

ARTICLES

**Matthew Goldsmith, Lynwood Yarbrough, and Derek van der Kooy** Mechanics of motility: distinct dynein binding domains on α- and β-tubulin **665**

**Hui Xiang and Thomas H. MacRae** Production and utilization of detyrosinated tubulin in developing *Artemia* larvae: evidence for a tubulin-reactive carboxypeptidase **673**

**Nicole B. Laferrière and D.L. Brown** Effects of taxol on the polymerization and posttranslational modification of class III β-tubulin in P19 embryonal carcinoma cells **687**

**A.R. Vaillant and D.L. Brown** Accumulation of microtubule-associated protein 1A (MAP1A) in differentiating P19 embryonal carcinoma cells **695**

REVIEWS/SYNTHÈSES

**Jacques Landry and Jacques Huot** Modulation of actin dynamics during stress and physiological stimulation by a signaling pathway involving p38 MAP kinase and heat-shock protein 27 **703**

**Vitauts. I. Kalnins, Martin Sandig, Greg J. Hergott, and Haruhiko Nagai** Microfilament organization and wound repair in retinal pigment epithelium **709**

**Lynn A. Megeney and Michael A. Rudnicki** Determination versus differentiation and the MyoD family of transcription factors **723**

**Michael J. Belliveau, Mohini Lutchman, Jaime O. Claudio, Claude Marineau, and Guy A. Rouleau** Schwannomin: new insights into this member of the band 4.1 superfamily **733**

## November–December / novembre–décembre

THE RIBOSOME: GROSS CONFIGURATION, SHAPE, AND MODELS/LE RIBOSOME : CONFIGURATION GROSSIÈRE, FORME ET MODÈLES

**F. Schlünzen, H.A.S. Hansen, J. Thygesen, W.S. Bennett, N. Volkmann, I. Levin, J. Harms, H. Bartels, A. Zaytzev-Bashan, Z. Berkovitch-Yellin, I. Sagi, F. Franceschi, S. Krumbholz, M. Geva, S. Weinstein, I. Agmon, N. Böddeker, S. Morlang, R. Sharon, A. Dribin, E. Maltz, M. Peretz, V. Weinrich, and A. Yonath** A milestone in ribosomal crystallography: the construction of preliminary electron density maps at intermediate resolution **739**

**Thomas R. Easterwood and Stephen C. Harvey** Modeling the structure of the ribosome **751**

**Joachim Frank, Adriana Verschoor, Yanhong Li, Jun Zhu, Ramani K. Lata, Michael Radermacher, Pawel Penczek, Robert Grassucci, Rajendra K. Agrawal, and Suman Srivastava** A model of the translational apparatus based on a three-dimensional reconstruction of the *Escherichia coli* ribosome **757**

**Florian Mueller, Thomas Döring, Tarik Erdemir, Barbara Greuer, Nicole Jünke, Monika Osswald, Jutta Rinke-Appel, Katrin Stade, Sabine Thamm, and Richard Brimacombe** Getting closer to an understanding of the three-dimensional structure of ribosomal RNA **767**

RIBOSOME BIOGENESIS AND EVOLUTION/GENÈSE ET ÉVOLUTION DU RIBOSOME

**S.G.E. Andersson and C.G. Kurland** Genomic evolution drives the evolution of the translation system **775**

**Rob W. van Nues, Jaap Venema, Jeanette M.J. Rientjes, Anita Dirks-Mulder, and Hendrik A. Raué** Processing of eukaryotic pre-rRNA: the role of the transcribed spacers **789**

**Denis Lafontaine and David Tollervey** *Trans*-acting factors in yeast pre-rRNA and pre-snoRNA processing **803**

**Simon Potter, Peter Durovic, Anthony Russell, Xin Wang, Deidre de Jong-Wong, and Patrick P. Dennis** Preribosomal RNA processing in Archaea: characterization of the RNP endonuclease mediated processing of precursor 16S rRNA in the thermoacidophile *Sulfolobus acidocaldarius* **813**

**Rudi J. Planta, Paula M. Gonçalves, and Willem H. Mager** Global regulators of ribosome biosynthesis in yeast **825**

**Jean-Pierre Bachellerie, Monique Nicoloso, Liang-Hu Qu, Bernard Michot, Michèle Caizergues-Ferrer, Jérome Cavaille, and Marie-Hélène Renalier** Novel intron-encoded small nucleolar RNAs with long sequence complementarities to mature rRNAs involved in ribosome biogenesis **835**

**Susan A. Gerbi** Small nucleolar RNA **845**

RIBOSOMAL RNA AND ITS DOMAINS/ARN RIBOSOMIQUE ET SES DOMAINES

**Michael O'Connor, Carleen A. Brunelli, Matthew A. Firpo, Steven T. Gregory, Kathy R. Lieberman, J. Stephen Lodmell, Hervé Moine, Donald I. Van Ryk, and Albert E. Dahlberg** Genetic probes of ribosomal RNA function **859**

**Alexey A. Bogdanov, Olga A. Dontsova, Svetlana S. Dokudovskaya, and Inna N. Lavrik** Structure and function of 5S rRNA in the ribosome **869**

**Bo T. Porse, Cristina Rodriguez-Fonseca, Ilia Leviev, and Roger A. Garrett** Antibiotic inhibition of the movement of tRNA substrates through a peptidyl transferase cavity **877**

**Anne Dallas, Robert Rycyna, and Peter Moore** A proposal for the conformation of loop E in *Escherichia coli* 5S rRNA **887**

**Seth Stern and Prakash Purohit** An oligonucleotide analog approach to the decoding region of 16S rRNA **899**

**Léa Brakier-Gingras, Robert Pinard, and François Dragon** Pleiotropic effects of mutations at positions 13 and 914 in *Escherichia coli* 16S ribosomal RNA **907**

**James Ofengand, Andrei Bakin, Jan Wrzesinski, Kelvin Nurse, and Byron G. Lane** The pseudouridine residues of ribosomal RNA **915**

**Emanuel J. Murgola, Frances T. Pagel, Kathryn A. Hijazi, Alexey L. Arkov, Wenbing Xu, and Song Q. Zhao** Variety of nonsense suppressor phenotypes associated with mutational changes at conserved sites in *Escherichia coli* ribosomal RNA **925**

RIBOSOMAL PROTEINS/PROTÉINES RIBOSOMIQUES

**Ira G. Wool, Yuen-Ling Chan, and Anton Glück** Structure and evolution of mammalian ribosomal proteins **933**

**Robert R. Traut, Debendranath Dey, Dmitry E. Bochkariov, Andrew V. Oleinikov, George G. Jokhadze, Brian Hamman, and David Jameson** Location and domain structure of *Escherichia coli* ribosomal protein L7/L12: site specific cysteine cross-linking and attachment of fluorescent probes **949**

**Miguel Remacha, Antonio Jimenez-Diaz, Cruz Santos, Elisa Briones, Reina Zambrano, M.A. Rodriguez Gabriel, E. Guarinos, and Juan P.G. Ballesta** Proteins P1, P2, and P0, components of the eukaryotic ribosome stalk. New structural and functional aspects **959**

**Francesco Amaldi, Olga Camacho-Vanegas, Beatrice Cardinali, Francesco Cecconi, Claudia Crosio, Fabrizio Loreni, Paolo Mariottini, Livio Pellizzoni, and Paola Pierandrei-Amaldi** Structure and expression of ribosomal protein genes in *Xenopus laevis* **969**

**V. Ramakrishnan, Christopher Davies, Sue Ellen Gerchman, Barbara L. Golden, David W. Hoffmann, T.N. Jaishree, Jadwiga H. Kycia, Stephanie Porter, and Stephen W. White** Structures of prokaryotic ribosomal proteins: implications for RNA binding and evolution **979**

**Marie Sanchirico, Andrew Tzellas, Thomas D. Fox, Heather Conrad-Webb, Philip S. Perlman, and Thomas L. Mason** Relocation of the unusual *VAR*1 gene from the mitochondrion to the nucleus **987**

RIBOSOME–tRNA INTERACTIONS/INTERACTIONS ENTRE L'ARNt ET LE RIBOSOME

**Harry F. Noller, Rachel Green, Gabriele Heilek, Vernita Hoffarth, Alexander Hüttenhofer, Simpson Joseph, Inho Lee, Kate Lieberman, Alexander Mankin, Chuck Merryman, Ted Powers, Elisabetta Viani Puglisi, Raymond R. Samaha, and Bryn Weiser** Structure and function of ribosomal RNA **997**

**Knud H. Nierhaus, Dieter Beyer, Marylena Dabrowski, Markus A. Schäfer, Christian M.T. Spahn, Jörg Wadzack, Jörg-Uwe Bittner, Nils Burkhardt, Gundo Diedrich, Ralf Jünemann, Detlev Kamp, Helga Voss, and Heinrich B. Stuhrmann** The elongating ribosome: structural and functional aspects **1011**

**Dev Mangroo, Xin-Qi Wu, and Uttam L. RajBhandary** *Escherichia coli* initiator tRNA: structure–function relationships and interactions with the translational machinery **1023**

**Walter E. Hill, Douglas J. Bucklin, James M. Bullard, Alana L. Galbraith, Narasimham V. Jammi, Charles C. Rettberg, Brennan S. Sawyer, and Michael A. van Waes** Identification of ribosome–ligand interactions using cleavage reagents **1033**

**Jacek Wower, Iwona K. Wower, Stanislav V. Kirillov, Kirill V. Rosen, Stephen S. Hixson, and Robert A. Zimmermann** Peptidyl transferase and beyond **1041**

**Måns Ehrenberg, Neşe Bilgin, Vildan Dincbas, Reza Karimi, Diarmaid Hughes, and Farhad Abdulkarim** tRNA–ribosome interactions **1049**

TRANSLATIONAL REGULATION/RÉGULATION DE LA TRADUCTION

**Irina Groisman and Hanna Engelberg-Kulka** Translational bypassing: a new reading alternative of the genetic code **1055**

**Tanel Tenson and Alexander Mankin** Comparison of functional peptide encoded in the *Escherichia coli* 23S rRNA with other peptides involved in *cis*-regulation of translation **1061**

**Dario Pediconi, Roberto Spurio, Anna La Teana, David Jemiolo, Claudio O. Gualerzi, and Cynthia L. Pon** Translational regulation of *infC* operon in *Bacillus stearothermophilus* **1071**

**Lev L. Kisselev and Lyudmila Yu. Frolova** Termination of translation in eukaryotes **1079**

**Barry S. Cooperman, Tammy Wooten, Daniel P. Romero, and Robert R. Traut** Histidine 229 in protein L2 is apparently essential for 50S peptidyl transferase activity **1087**

**Warren P. Tate, Elizabeth S. Poole, Julie A. Horsfield, Sally A. Mannering, Chris M. Brown, John G. Moffat, Mark E. Dalphin, Kim K. McCaughan, Louise L. Major, and Daniel N. Wilson** Translational termination efficiency in both bacteria and mammals is regulated by the base following the stop codon **1095**

**Janice M. Zengel, Dariya Vorozheikina, Xiao Li, and Lasse Lindahl** Regulation of the *Escherichia coli* S10 ribosomal protein operon by heterologous L4 ribosomal proteins **1105**

**Yoshikazu Nakamura, Koichi Ito, Kiyoyuki Matsumura, Yoichi Kawazu, and Kanae Ebihara** Regulation of translation termination: conserved structural motifs in bacterial and eukaryotic polypeptide release factors **1113**

**B. Larsen, J. Peden, S. Matsufuji, T. Matsufuji, K. Brady, R. Maldonado, N.M. Wills, O. Fayet, J.F. Atkins, and R.F. Gesteland** Upstream stimulators for recoding **1123**

**Chantal Ehresmann, Claude Philippe, E. Westhof, Lionel Bénard, Claude Portier, and Bernard Ehresmann** A pseudoknot is required for efficient translational initiation and regulation of the *Escherichia coli rpsO* gene coding for ribosomal protein S15 **1131**

**Susan W. Liebman, Yury O. Chernoff, and Rong Liu** The accuracy center of a eukaryotic ribosome **1141**

ANTIBIOTIC INTERACTIONS/INTERACTIONS AVEC LES ANTIBIOTIQUES

**Richard Kao and Julian Davies** Fungal ribotoxins: a family of naturally engineered targeted toxins? **1151**

**Barbara-Ann Howard, George Thom, Ian Jeffrey, Dave Colthurst, David Knowles, and Catherine Prescott** Fragmentation of the ribosome to investigate RNA–ligand interactions **1161**

**Barend Kraal, Leo A.H. Zeef, Jeroen R. Mesters, Kathy Boon, Erik L.H. Vorstenbosch, Leendert Bosch, Pieter H. Anborgh, Andrea Parmeggiani, and Rolf Hilgenfeld** Antibiotic resistance mechanisms of mutant EF-Tu species in *Escherichia coli* **1167**

**Stephen Douthwaite, Bjørn Voldborg, Lykke Haastrup Hansen, Gunnar Rosendahl, and Birte Vester** Recognition determinants for proteins and antibiotics within 23S rRNA **1179**

**Brigitte Wittmann-Liebold, Monika Ühlein, Henning Urlaub, Eva-Christina Müller, Albrecht Otto, and Oliver Bischof** Structural and functional implications in the eubacterial ribosome as revealed by protein–rRNA and antibiotic contact sites **1187**

TRANSLATIONAL FACTORS AND CHAPERONES/FACTEURS DE TRADUCTION ET CHAPERONS

**Boyd Hardesty, Wieslaw Kudlicki, O.W. Odom, Tong Zhang, Diane McCarthy, and Gisela Kramer** Cotranslational folding of nascent proteins on *Escherichia coli* ribosomes **1199**

**Anders Liljas, Arnthor Ævarsson, Salam Al-Karadaghi, Maria Garber, Julia Zheltonosova, and Evgeni Brazhnikov** Crystallographic studies on elongation factor G **1209**

**Vyacheslav A. Kolb, Eugeny V. Makeyev, Aigar Kommer, and Alexander S. Spirin** Cotranslational folding of proteins **1217**

**Marina V. Rodnina, Tillmann Pape, Rainer Fricke, and Wolfgang Wintermeyer** Elongation factor Tu, a GTPase triggered by codon recognition on the ribosome: mechanism and GTP consumption **1221**

**Author index for Volume 73 / Index des auteurs pour le volume 73** **AI-1**

**Contents for Volume 73 / Sommaire pour le volume 73** **C-1**